

# CITY OF CANTON, OHIO

## GP 1137-WAYNESBURG DRIVE SE SANITARY SEWER REHABILITATION

(REVISED)

MAY 2011  
NOVEMBER 2010

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### PUBLIC AGENCIES/ UTILITY CONTACTS

**NATURAL GAS**  
DOMINION EAST OHIO GAS  
DISTRIBUTION & TRANSMISSION  
320 SPRINGSIDE DRIVE  
AKRON, OHIO 44333  
330-664-2409  
ATTN: MARY LONG  
EMERGENCY NO.  
1-800-521-4400

**COMMUNICATIONS CABLE**  
TIME WARNER CABLE  
5520 WHIPPLE AVE. N.W.  
NORTH CANTON, OHIO 44720  
330-494-9200, EXT. 87  
ATTN: TIM KNIGHT

**SANITARY AND STORM SEWER**  
CITY ENGINEER'S OFFICE  
2436-30TH ST. N.E.  
CANTON, OHIO 44705  
ATTN: DAN MOEGLIN, P.E., S.J.  
330-489-3381

**WATER**  
WATER DEPARTMENT  
2664 HARRISBURG RD. N.E.  
CANTON, OHIO 44708  
330-489-3310  
ATTN: LEWIS MILLER

**ODOT DISTRICT 4**  
2088 SOUTH ARLINGTON ROAD  
AKRON, OHIO 44306  
800-603-1054  
ATTN: KEN GREENE

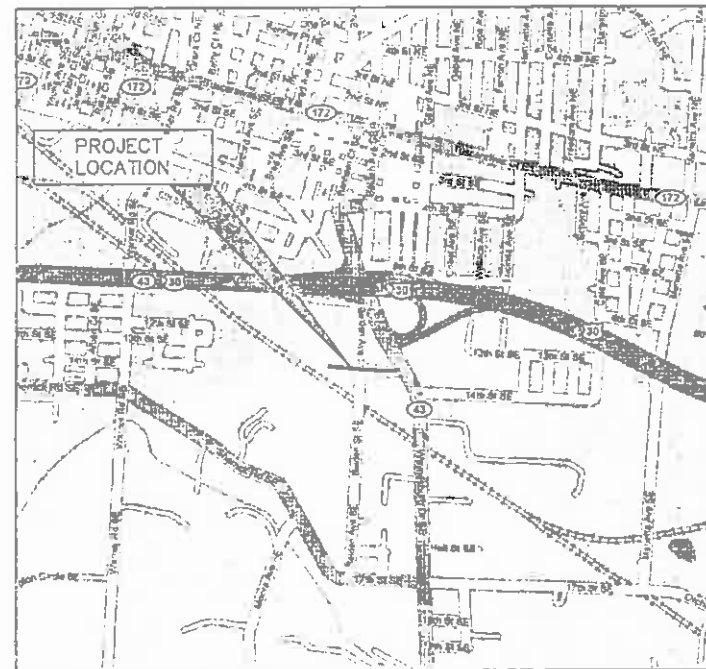
**TELEPHONE**  
AT&T  
50 WEST BOWER STREET  
AKRON, OHIO 44308  
330-384-8057  
ATTN: JIM BUETEL  
EMERGENCY NO. - 24 HRS  
1-800-572-4545 OPTION#4

**ELECTRIC**  
AMERICAN ELECTRIC POWER  
301 CLEVELAND AVE. S.W.  
P.O. BOX 24400  
CANTON, OHIO 44701-4400  
330-438-7762  
ATTN: KEN HUOT  
EMERGENCY NO.  
1-800-672-2017

**SANITARY SEWER**  
STARK COUNTY SANITARY  
1701 MAHONING ROAD N.E.  
CANTON, OHIO 44705  
330-451-2303  
ATTN: JIM JONES, P.E.

**TRAFFIC INTERCONNECT**  
CITY ENGINEER'S OFFICE  
2436-30TH ST. N.E.  
CANTON, OHIO 44705  
330-489-3370  
ATTN: NICK LOUKAS, P.E.

**CANTON TOWNSHIP**  
ROAD SUPERINTENDANT  
4711 CENTRAL AVE. S.E.  
CANTON, OHIO 44707  
330-484-2501  
ATTN: TOM HEWITT



NEARBY VICINITY MAP  
N.T.S.

### ENGINEER/SURVEYOR

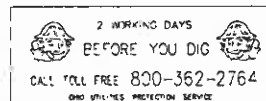
HAMMONTREE & ASSOCIATES, LTD.  
5233 STONEHAM RD.  
NORTH CANTON, OHIO 44720

ATTN: THOMAS POWELL, P.E.  
TELE: (330) 499-8817  
FAX: (330) 499-0149

### CITY OWNER

CITY OF CANTON, OHIO  
2436 30TH STREET N.E.  
CANTON, OHIO 44705

ATTN: DANIEL MOEGLIN, P.E., S.J.  
TELE: (330) 489-3381  
FAX: (330) 489-3337



### APPROVALS

APPROVED BY: Dan Moeglin 11/17/10  
DANIEL MOEGLIN, P.E., S.J. - CANTON CITY ENGINEER DATE

APPROVED BY: Thomas R. Powell 11/17/10  
THOMAS R. POWELL, P.E. - HAMMONTREE & ASSOCIATES, LIMITED DATE  
REGISTERED ENGINEER NO. E-45970

APPROVED BY: ODOT VIA PERMIT STA 43-59 DATED: FEBRUARY 13, 2011  
JULY 20, 2010

### MODIFICATIONS DATED

RE: BID MODIFICATIONS DATED 1/14/2011  
APPROVED BY: Douglas J. Harris 11/18/10  
DOUGLAS J. HARRIS, P.E. - SANITARY ENGINEER, CANTON DATE  
REGISTERED ENGINEER NO. 70789

### CITY OFFICIALS

MAYOR: WILLIAM J. HEALY II  
SERVICE DIRECTOR: WARREN R. PRICE  
SAFETY DIRECTOR: THOMAS REAM

### COUNCIL MEMBERS

WARD 1: GREG HAWK  
WARD 2: THOMAS E. WEST  
WARD 3: JAMES E. GRIFFIN  
WARD 4: CHRIS SMITH  
WARD 5: TERRY PRATER  
WARD 6: DAVID R. DOUGHERTY  
WARD 7: PATRICK BARTON  
WARD 8: MARK BUTTERWORTH  
WARD 9: BRIAN HORNER  
AT-LARGE: MARY M. O'RELLI  
AT-LARGE: JOE COLE  
AT-LARGE: BILL SMUCKLER  
COUNCIL PRESIDENT: ALLEN SCHULMAN

HAMMONTREE & ASSOCIATES, LTD.  
ENGINEERS, ARCHITECTS, PLANNERS  
CANTON, OHIO 44720  
5233 STONEHAM ROAD NORTH CANTON, OHIO 44720  
CANTON (330) 499-8817 AKRON (330) 433-7274  
TOLL FREE: 1-800-362-2764 FAX: (330) 499-0149  
WWW.HAMMONTREE.COM

REV	BY	DATE	DESC	DATE	DESC
1	DM	11/17/10	11/17/10	11/17/10	11/17/10
2	DM	11/17/10	11/17/10	11/17/10	11/17/10
3	DM	11/17/10	11/17/10	11/17/10	11/17/10
4	DM	11/17/10	11/17/10	11/17/10	11/17/10
5	DM	11/17/10	11/17/10	11/17/10	11/17/10
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8	DM	11/17/10	11/17/10	11/17/10	11/17/10
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SCALE:  
HORIZ: N/A  
VERT: 1"=20'  
CONTOUR: INT 4'

TITLE SHEET  
GP 1137-WAYNESBURG DRIVE SE  
SANITARY SEWER REHABILITATION  
FOR THE CITY OF CANTON  
LOCATED IN THE CITY OF CANTON/CANTON TOWNSHIP,  
SECTION 14 NW, STARK COUNTY, OHIO

#### 4. PROJECT SPECIFICATIONS/REQUIREMENTS

THE CONTRACTOR SHALL COMPLY WITH THE CITY OF CANTON  
SUPPLEMENTAL SPECIFICATION 01-00 PROJECT DOCUMENTATION  
AND SUBMITTAL REQUIREMENTS.

### (3) ADMINISTRATIVE REQUIREMENTS

THE CONTRACTOR SHALL DESIGNATE TO THE CITY AN EMPLOYEE RESPONSIBLE FOR CORRESPONDENCE, NOTIFICATIONS, AND SUBMITTALS PERTINENT TO THE PROJECT

### 10. PRECONSTRUCTION MEETING

FOR CITY GENERAL PROJECTS, THE CITY ENGINEER WILL CONTACT THE CONTRACTOR TO ARRANGE A MEETING DATE. THE CITY ENGINEER WILL CONTACT THE ABOVE AGENCIES TO CONFIRM THE MEETING DATE.

2. PROTECT SAFETY

THE UNDERGROUND UT-75C

(F) STUDY NOTIFICATION

THE PRIMARY UTILITIES WITHIN THE CITY OF CANTON AREA:

TELEPHONE  
AT&T  
50 WEST BOWER STREET  
AKRON, OHIO 44308  
330-384-8057  
ATTN: JIM BUETEL  
EMERGENCY NO. - 24 HRS  
1-800-572-4545 OPTION#4

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AMERICAN ELECTRIC POWER  
301 CLEVELAND AVE. S.W.  
P.O. BOX 24400  
CANTON, OHIO 44701-4400  
330-438-7762  
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4711 CENTRAL AVE S E  
CANTON, OHIO 44707  
330-484-2501  
ATTN: TOM HEWITT

(G) PROPOSED PUBLIC UTILITY LOCATION: PROPOSED  
SERVICES:

#### (H) EXPLORATORY BORINGS

### (1) CONTINGENCY QUANTITIES

## II. CONSTRUCTION INCIDENTALS

(A) PLAN DISCREPANCIES.

FAILURE BY THE CONTRACTOR TO VERIFY AND/OR DETERMINE EXISTING INFORMATION AS INDICATED WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR ANY CHANGES NECESSARY TO COMPLETE THE WORK SPECIFIED WITHOUT ADDITIONAL COMPENSATION.

### (B) VERIFICATION OF UNDERGROUND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO INSTALL THE PROPOSED CONDUIT

### (C) PROTECTION OF UTILITIES

THE CONTRACTOR SHOULD EXPECT AT A MINIMUM ONE  
SANITARY SEWER LATERAL, ONE ROOF DRAIN, ONE WATER  
SERVICE, AND ONE GAS SERVICE FOR EACH LOT. ANY OF THE  
ABOVE UTILITIES DAMAGED DUE TO THE CONTRACTOR'S WORK  
SHALL BE RESTORED TO THE UTILITY OWNER'S SATISFACTION AT  
THE CONTRACTOR'S EXPENSE

### (2) MAINTENANCE OF JURY SERVICES

WATER SERVICE MAY BE INTERRUPTED FOR LIMITED PERIODS (4 HOURS MAXIMUM) DURING CONNECTION BETWEEN EXISTING WATER LINES AND RELOCATED/NEW WATER LINES WHICH CANNOT BE COMPLETED OTHERWISE. NO SHUT DOWN SHALL OCCUR WITHOUT WRITTEN PERMISSION OF THE CITY OF CANTON WATER DEPARTMENT. PROPERTY OWNERS AFFECTED BY APPROVED INTERRUPTED SERVICE SHALL BE NOTIFIED 48 HOURS IN ADVANCE BY THE CONTRACTOR.

IN THE EVENT THAT CONSTRUCTION DISRUPTS THE FLOW OF A SANITARY SEWER, THE CONTRACTOR SHALL IMMEDIATELY RECTIFY THE DISRUPTED SEWER BY EITHER TEMPORARILY FLUMING WITH MATERIALS ACCEPTABLE TO THE ENGINEER OR BYPASSING WITH PUMPS. COST OF MAINTAINING AND REPAIR OF SANITARY SEWERS DISTURBED BY CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE

15. CONSTRUCTION NOISE

CONSTRUCTION NOISE ASSOCIATED WITH ANY IMPROVEMENT PROJECT, SHALL BE LIMITED TO LEVELS COMMENSURABLE WITH ADJOINING LAND AND THEIR ASSOCIATED USAGE AS DETERMINED BY THE CITY ENGINEER. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION-NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 7:00 P.M. AND 7:00 A.M., UNLESS AUTHORIZED BY THE CITY ENGINEER.

(F) OPEN TRENCH CONSTRUCTION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION /TRENCHING PRACTICES FOR THE PROPOSED IMPROVEMENT, OR AS FURTHER SHOWN ON THE PLANS AND SPECIFICATIONS

THE CONTRACTOR SHALL FOLLOW ALL LOCAL AND STATE REGULATION, INCLUDING FEDERAL REGULATION, PART 1926, SUB PART P FOR ALL APPLICABLE REQUIREMENTS AND RESPONSIBILITIES.

PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER OF THE PROJECT'S ASSIGNED "COMPETENT PERSON" IN OSHA EXCAVATION STANDARDS.

### (G). TRENCH CLOSING AND TEMPORARY TOPPING

THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE THE NECESSARY LEVELS OF PROTECTION AND SAFEGUARDING OF ALL OPEN TRENCHES, WHEN WORK IS EITHER COMPLETED AT THE END OF THE DAY OR SUSPENDED FOR ANY OTHER REASON.

AS A MINIMUM, THE CITY REQUIRES ALL TRENCHES TO BE TOPPED WITH 4" OF ODOT 304 LIMESTONE FOR TRENCHES WITHIN EXISTING ROADWAY PAVEMENTS WHEN THE ROADWAY WILL BE OPENED TO VEHICULAR TRAFFIC PRIOR TO PAVEMENT REPLACEMENT.

THE TRENCH TOPPING MATERIAL SHALL BE ROLLED OR OTHERWISE COMPLETED AND BE FURNISHED FLUSH WITH THE EXISTING ADJOINING PAVEMENT.

#### (H) DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. SUFFICIENT QUANTITIES OF CALCIUM CHLORIDE SHALL BE STORED ON THE JOB SITE AT ALL TIMES TO BE USED FOR DUST CONTROL.

[illegible]



V. SANITARY SEWERS / STORM SEWERS

ALL SANITARY/STORM SEWER CONDUITS AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO CITY SPECIFICATIONS AND ODOT 603 SPECIFICATION EFFECTIVE AT THE TIME OF CONSTRUCTION.

(A) BEDDING

BEDDING SHALL BE AASHTO M 43, NUMBERS 56, 57, OR 67 LIMESTONE OR ANGULAR CRUSHED GRAVEL STONE. BEDDING SHALL EXTEND THE FULL WIDTH OF THE TRENCH. TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF PIPE PLUS 12" ON BOTH SIDES OF THE PIPE. FOR REINFORCED CONCRETE PIPE CONDUIT THE BEDDING SHALL EXTEND 3" BELOW THE BOTTOM OF PIPE AND FLUSH WITH THE TOP OF PIPE. FOR ALL OTHER SEWER CONDUITS THE BEDDING SHALL EXTEND 6" BELOW THE BOTTOM OF PIPE AND 12" ABOVE THE PIPE.

BEDDING CLASSES A, B, C, OR CRUSHED GRAVEL STONE AS DESCRIBED IN ASTM C12 SHALL BE USED AND CAREFULLY COMPACTED FOR ALL RIGID PIPE.

EMBEDMENT MATERIALS FOR BEDDING, HAUNCHING AND INITIAL BACKFILL, CLASS I, II, OR III, AS DESCRIBED IN ASTM D2321, SHALL BE USED AND CAREFULLY COMPACTED FOR ALL FLEXIBLE PIPE.

(B) BACKFILL WITHIN THE RIGHT-OF-WAY

BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH ODOT 703.11, TYPE '1' GRANULAR MATERIAL (304, 411, or 617 AGGREGATE GRADATION). DEVIATIONS FROM THIS ARE AS FOLLOWS:

1. NO FOUNDRY SAND, AIR COOLED BLAST FURNACE SLAG, GRANULATED SLAG, OR OPEN HEARTH SLAG SHALL BE PERMITTED.
2. ANY EXCEPTION TO THE TYPE '1' GRANULAR MATERIAL SHALL BE WITH THE SUPPLEMENTAL APPROVAL OF THE CITY ENGINEER. FOR SUCH SUPPLEMENTAL APPROVAL THE CONTRACTOR SHALL SUBMIT IN WRITING THE FOLLOWING:
  - a.) SOURCE OF THE ALTERNATE BACKFILL MATERIAL.
  - b.) GRADATION REPORT IN ACCORDANCE WITH AASHTO T 111 AND T 27.
  - c.) PROCTOR CURVE ANALYSIS IN ACCORDANCE WITH ASTM D 698.
  - d.) PROPOSED COMPACTION METHOD.

THE CITY RESERVES THE RIGHT TO REFUSE ANY ALTERNATE BACKFILL MATERIAL THE CITY FINDS NOT CONSISTENT WITH THE MATERIAL PREVIOUSLY APPROVED BY THE CITY ENGINEER.

BACKFILL METHODS SHALL BE IN ACCORDANCE WITH ODOT 603, DEVIATION FROM THIS ARE AS FOLLOWS:

1. CONTRACTOR MAY REQUEST TO EXCEED 8" PLACEMENT LIFTS DURING BACKFILL PROCEDURE. GREATER LIFT SIZE IS SUBJECT TO THE CITY ENGINEER'S APPROVAL BASED ON THE CONTRACTOR'S PROPOSED COMPACTION METHOD AND THE BACKFILL MATERIAL.

(C) BACKFILL OUTSIDE THE RIGHT-OF-WAY

BACKFILL MATERIAL AND COMPACTION SHALL BE IN ACCORDANCE WITH DETAIL ON SHEET 6 OF THE PLANS. RESTORATION OF THE STREAM BED, SUBSTRATES, SLOPES AND BANKS SHALL FOLLOW NOTE ON SHEET 10.

(D) MANHOLES

PRECAST CONCRETE MANHOLES SHALL BE IN ACCORDANCE WITH ODOT 604 AND ODOT STANDARD CONSTRUCTION DRAWING MH-3 (NOTE: THIS INCLUDES ALL REQUIREMENTS OF ASTM C-478, PER ODOT 706.13). DEVIATIONS FROM THIS ARE AS FOLLOWS:

1. ALL MANHOLE SECTIONS SHALL HAVE 6 ±2 PERCENT AIR IN THE HARDENED CONCRETE.
2. PRECAST BASE SHALL HAVE EXTENDED BASE OF 6" AROUND OUTSIDE CIRCUMFERENCE OF MANHOLE.
3. GRADE RINGS SHALL BE SET IN MORTAR AND SHALL NOT EXCEED 12".
4. GRADE RINGS, IF BRICK, SHALL BE BELDEN BRICK CO. (FINE GRIND) OR EQUAL AND MEET ASTM C32-90.
5. MORTAR TO BE AIR ENTRAINED, HIGH STRENGTH QUALITY UNLESS OTHERWISE SPECIFIED.
6. UNIONS IN RISER SECTIONS SHALL USE RUBBER GASKETS PER ASTM C-443.

(D) MANHOLES (CONTINUED)

BRICK MANHOLES (STORM SEWER ONLY) SHALL BE IN ACCORDANCE WITH ODOT 604 AND ODOT STANDARD CONSTRUCTION DRAWING MH-1. DEVIATIONS FROM THIS ARE AS FOLLOWS:

1. CONCRETE BRICK AND CONCRETE MASONRY BLOCK ARE PROHIBITED FROM THE MATERIAL SECTION.
2. BRICK SHALL BE MANUFACTURED BY BELDEN BRICK (FINE GRIND) OR EQUAL. BRICK SHALL MEET ASTM C32-93.
3. MORTAR TO BE AIR ENTRAINED, HIGH STRENGTH QUALITY UNLESS OTHERWISE SPECIFIED.

MANHOLE BASE SHALL BE PLACED ON A MINIMUM OF 6" OF #57 STONE BEDDING.

ALL EXCAVATED AREAS SHALL BE BACKFILLED WITH ODOT 703.11, TYPE '1' GRANULAR MATERIAL. BACKFILL METHODS IN ACCORDANCE WITH ODOT 603.081.

CASTINGS AS PER CITY STANDARD DRAWING # 19.

DISTANCE BETWEEN TOP OF MANHOLE CASTING AND THE TOP STEP SHALL NOT EXCEED 30".

MANHOLE STEPS SHALL BE POLYPROPYLENE IN ACCORDANCE WITH ASTM 2146-68.

CHANNELS SHALL BE CONSTRUCTED WITH CLASS 'C' CONCRETE WITH A FINISHED SMOOTH SURFACE MAINTAINING POSITIVE FLOW FROM INLET TO OUTLET.

WHEN SPECIFIED ON THE PLANS, DROP PIPES SHALL BE CONSTRUCTED FOR SANITARY CONDUITS WHICH CANNOT BE CONNECTED TO THE MANHOLE WITHIN 24 INCHES FLOW LINE TO FLOW LINE. DROP PIPES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CITY STANDARD DRAWING NO. 18 OR AS SHOWN ON THE PLANS.

(E) CATCH BASIN

CATCH BASINS SHALL BE IN ACCORDANCE WITH ODOT 604, APPLICABLE ODOT CATCH BASIN STANDARD CONSTRUCTION DRAWINGS, AND APPLICABLE CITY CATCH BASIN STANDARD DRAWINGS AS PER PLAN. DEVIATIONS FROM ODOT SPECIFICATIONS ARE AS FOLLOWS:

1. CONCRETE BRICK/BLOCK IS PROHIBITED FROM THE MATERIAL SELECTION.
2. BRICK SHALL BE MANUFACTURED BY BELDEN BRICK (FINE GRIND) OR EQUAL. BRICK SHALL MEET ASTM C32-93 GRADENESS.
3. MORTAR TO BE AIR ENTRAINED, HIGH STRENGTH QUALITY UNLESS OTHERWISE SPECIFIED.

BRICK CATCH BASINS SHALL INCLUDE:

1. ALL INSIDE JOINTS TO BE STRUCK AND CLOSED.
2. (ONE) 4" DIAMETER INLET PIPE SITUATED AWAY FROM THE ROAD SIDE OF THE BASIN.
3. PLASTER OUTSIDE WALLS WITH HIGH STRENGTH MORTAR, 1/2" THICK.

ALL CATCH BASINS SHALL BE PLACED ON 6" OF #57 STONE BEDDING.

ALL EXCAVATED AREAS SHALL BE BACKFILLED WITH ODOT 703.11, TYPE '1' GRANULAR MATERIAL. BACKFILL METHODS IN ACCORDANCE WITH ODOT 603.081.

ALL KNOCKOUTS FOR INLETS AND OUTLETS PIPING SHALL BE FASHIONED NEATLY. ALL ANNULAR SPACE TO BE FILLED WITH APPROVED BRICK AND MORTAR.

CHANNELS SHALL BE CONSTRUCTED WITH CLASS 'C' CONCRETE WITH A FINISHED SMOOTH SURFACE MAINTAINING POSITIVE FLOW FROM INLET TO OUTLET.



THE UNIT PRICE FOR THE SEWER REPLACEMENT ITEMS IN THE BID SHALL INCLUDE CLOSED CIRCUIT TELEVISION OF THE SANITARY SEWER. AFTER THE REPLACEMENT OF THE SEWER TO OBSERVE THE CONNECTION TO THE EXISTING SANITARY SEWER, UPSTREAM AND DOWNSTREAM OF THE REPLACEMENT PIPE.

(F) UNDERDRAINS

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT 605 UNDERDRAINS; DEVIATIONS FROM THIS ARE AS FOLLOWS:

1. NO AIR-COOLED BLAST FURNACE SLAG SHALL BE PERMITTED.

(G) ROOF DRAINS

THE CONTRACTOR SHALL INSTALL TWO ROOF DRAINS PER LOT UNLESS OTHERWISE SPECIFIED ON THE PLANS OR DIRECTED BY THE CITY ENGINEER.

THE ROOF DRAINS OUTLETS SHALL BE CORED OR SLEEVED THROUGH THE CURB. OPENING DIAMETER NO GREATER THAN 3-1/2" AND BOTTOM OF OPENING AT 1" ABOVE GUTTER.

THE CONTRACTOR SHALL INSTALL 3" PVC, SCHEDULE 40, CONDUIT FROM THE FACE OF THE CURB TO A POINT 1' BEYOND THE BACK OF WALK OR AT THE RIGHT-OF-WAY LINE, WHICHEVER IS GREATER.

CONTRACTOR SHALL PLACE A CONTROL JOINT IN THE SIDEWALK OVER THE ROOF DRAIN WHEN CONDUIT IS IN THE CONCRETE WALK.

CONNECTIONS TO EXISTING ROOF DRAINS SHALL BE MADE WITH NEOPRENE COUPLERS (ie FERNCO) AND STAINLESS STEEL CLAMPS.

(H) SUMP PUMP DISCHARGE CONDUIT

IF SUMP PUMP DISCHARGE CONDUIT IS INSTALLED WITHIN THE CITY'S RIGHT-OF-WAY, THE PIPING SHALL BE CONNECTED TO A NEW OR EXISTING STORM SEWER CONDUIT, CATCH BASIN, OR MANHOLE. CONNECTIONS TO A CONDUIT OR MANHOLE MUST HAVE A RELIEF DISCHARGE THROUGH THE CURB (SEE NOTE "G" ROOF DRAINS) AND/OR VENT STACK TO THE GROUND SURFACE, AS DEEMED NECESSARY BY THE CITY ENGINEER. ALL CONNECTIONS TO BE APPROVED BY THE CITY ENGINEER. ALL OTHER LOCATIONS OF DISCHARGE PIPING SHALL BE VERIFIED/APPROVED BY THE CITY'S BUILDING DEPARTMENT.

(I) SANITARY LATERAL CONNECTIONS

ALL CONNECTIONS TO THE MAIN SEWER SHALL BE INSTALLED WITH A MANUFACTURED WYE.

THE MINIMUM SLOPE OF THE LATERALS SHALL BE 1/8" PER FT. (1%) AND THE MAXIMUM SHALL BE 1/4" PER FT. (2%) UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

ALL NEW SANITARY LATERALS SHALL EXTEND 10 LF BEYOND THE ROAD RIGHT-OF-WAY AND SHALL HAVE A MINIMUM/MAXIMUM OF 8' OF COVER AT THE RIGHT-OF-WAY, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

WHEN THE DEPTH OF THE MAIN WOULD CAUSE A LATERAL TO EXCEED A 2% RATE OF GRADE, A LATERAL CONNECTION STACK SHALL BE INSTALLED AT THE MAIN. SAID STACK SHALL CONFORM TO CITY STANDARD DRAWING NO. 28.

ALL END OF LATERAL RUNS SHALL BE CAPPED W/SUITABLE AIR TIGHT PLUG AND MARKED UP TO 2' MINIMUM ABOVE GRADE WITH SUITABLE POSTS.

CONTRACTOR SHALL SUBMIT THE FOLLOWING DOCUMENTATION TO THE CITY ENGINEER FOR ALL LATERAL CONNECTIONS:

1. DISTANCE OF WYE FROM THE DOWNSTREAM MANHOLE.
2. DISTANCE ALONG THE SEWER MAIN, FROM THE DOWNSTREAM MANHOLE TO THE LATERAL CONNECTION END.
3. PERPENDICULAR DISTANCE FROM SEWER MAIN TO LATERAL CONNECTION END.
4. DEPTH OF LATERAL CONNECTION END, FROM TOP OF PROPOSED/EXISTING CURB/ORIGINAL GROUND TO FLOW LINE.



THE COST TO CLOSED CIRCUIT TELEVISION THE EXISTING SEWER PRIOR TO C.I.P.P. CONSTRUCTION AND EXISTING 18" DIAMETER SANITARY SEWER REMOVAL PRIOR TO REPLACEMENT WILL NOT BE A SEPARATE PAY ITEM. COSTS OF SAME SHALL BE INCIDENTAL TO THE COSTS OF THE NEW SEWERS, RESPECTIVELY.

(J) TESTING

SANITARY SEWERS SHALL BE TESTED BY CONTRACTOR IN ACCORDANCE WITH THE CITY OF CANTON'S SUPPLEMENTAL SPECIFICATION.

02-00 TESTING FOR EXCESSIVE DEFLECTION FOR NON-PRESSURE THERMOPLASTIC SEWER PIPE.

NOTE: DEFLECTION RATE SHALL NOT EXCEED FIVE PERCENT (5%) AND SHALL BE TESTED IN ACCORDANCE WITH ASTM D-3034.

03-00 TESTING PRACTICES FOR LOW-PRESSURE AIR TESTING OF INSTALLED, NON-PRESSURE, THERMOPLASTIC SEWER PIPE.

NOTE: THE MAXIMUM ALLOWABLE TEST LEAKAGE SHALL BE 100 GALLONS/INCH OF DIAMETER/MILE/DAY.

04-01 STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE AIR PRESSURE TEST.

NOTE: MANHOLES SHALL BE TESTED IN ACCORDANCE WITH ASTM C-1244.

SANITARY AND STORM SEWERS CONSTRUCTED WITH THIS PROJECT SHALL BE TELEVIEWED (POST CONSTRUCTION) BY THE CONTRACTOR IN ACCORDANCE WITH CITY OF CANTON'S SUPPLEMENTAL SPECIFICATION.

05-01 CLOSED CIRCUIT TELEVISION (CCTV) INSPECTION AND DOCUMENTATION PROCEDURE.

(K) PROHIBITED CONNECTIONS

ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.

(L) SANITARY SEWER PIPE

SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE SOLID WALL PIPE IN ACCORDANCE WITH ODOT 707.45 AND SHALL BE PVC-SDR 26. USE PROPERLY SIZED FERNCO COUPLING (STRONG BACK RC SERIES) TO CONNECT PROPOSED TO EXISTING SANITARY SEWER PIPE. THE PIPE WILL BE ENCASED IN CONCRETE (ODOT CLASS C) PER DETAIL ON SHEET 6.

SEE NOTE ADDED BELOW.

(M) SEWER REHABILITATION-CURED IN PLACE PIPE

SEE SECTION 02957, SEWER LINING, IN TECHNICAL SPECIFICATIONS FOR DETAILS ON REQUIRED CURED-IN-PLACE-PIPE SEWER LINING.

SEE NOTE ADDED BELOW.

VI. EROSION CONTROL:

(A) TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE CONTRACTOR SHALL PREVENT AND/OR REDUCE AND CONTROL SOIL EROSION RESULTING FROM THE PROPOSED IMPROVEMENTS. THE USE OF SILT FENCING, JUTE MATING, TEMPORARY SEEDING, SOD, SILT CHECKS, INLET PROTECTION AROUND ALL CATCH BASINS, AND STABILIZED CONSTRUCTION ENTRANCE(S) ETC. WILL BE REQUIRED. SEDIMENT CONTROL STRUCTURES/DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL RAINWATER AND LAND DEVELOPMENT - OHIO'S STANDARDS FOR STORM WATER MANAGEMENT LAND DEVELOPMENT AND URBAN STREAM PROTECTION, SECOND EDITION DATED 1996. SEDIMENT CONTROL DEVICES MUST BE INSTALLED PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUED INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS SET FORTH ON THE APPROVED STORM WATER POLLUTION PREVENTION PLAN IF APPLICABLE, OR ON THE DETAILED CONSTRUCTION PLANS.

\* ADDITIONAL SOIL EROSION CONTROLS ARE INCLUDED ON SHEET 10.

(B) ROCK CHANNEL PROTECTION, AS PER PLAN.

ROCK CHANNEL PROTECTION, IF REQUIRED, SHALL MEET THE REQUIREMENTS OF ODOT ITEM 601. GEOTEXTILE FABRIC SHALL BE PLACED UNDER ALL ROCK CHANNEL PROTECTION AND SHALL MEET THE REQUIREMENTS OF ODOT ITEM 712.09. GEOTEXTILE FABRICS, TYPE 'B' (FILTER BLANKETS FOR ROCK CHANNEL PROTECTION) REFER TO DETAILED PLAN DRAWINGS FOR THE SPECIFIC LOCATION, TYPE, LENGTH, WIDTH AND THICKNESS OF THE ROCK CHANNEL PROTECTION.

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REV	BY	DATE	DESC

DESIGN	BY	DATE	SCALE

SCALE	DESCRIPTION

GENERAL NOTES  
GP 1137-WAYNESBURG DRIVE SE  
SANITARY SEWER REHABILITATION  
FOR THE CITY OF CANTON  
LOCATED IN THE CITY OF CANTON/CANTON TOWNSHIP  
SECTION 14 NW, STARK COUNTY, OHIO



VII. TRAFFIC:

(A) MAINTAINING TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC ADJACENT TO AND THROUGH THE PROJECT AS DESCRIBED BELOW AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATION MANUAL OF CONSTRUCTION AND MATERIALS SPECIFICATIONS ITEM 614 MAINTAINING TRAFFIC. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND REMOVE ALL SIGNS, FLAGS, FLAGMEN, WATCHMEN, BARRICADES, SIGN SUPPORTS, CONES, BARRELS, AND INCIDENTALS IN CONFORMANCE WITH THE MOST RECENT REVISIONS OF THE CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. INTERFERENCE WITH VEHICULAR TRAFFIC SHALL BE KEPT TO A MINIMUM AT ALL TIMES. ALL OPEN TRENCHES AND EXCAVATIONS SHALL BE PROTECTED WITH DRUMS, BARRICADES, OR BARRIERS. ACCESS SHALL BE MAINTAINED AT ALL TIMES FOR EMERGENCY AND FIRE DEPARTMENT VEHICLES.

ANY TEMPORARY ROADWAY CLOSING MUST BE APPROVED IN WRITING BY THE CITY TRAFFIC ENGINEER AND ANY OTHER PUBLIC AGENCY HAVING JURISDICTION. THE CONTRACTOR SHALL NOTIFY THE TRAFFIC ENGINEER AT LEAST 72 HOURS IN ADVANCE OF ANY SUCH CLOSINGS FOR PUBLICATION AND EMERGENCY AGENCY NOTIFICATION.

(B) RESIDENTIAL AND BUSINESS AREAS

THE CONTRACTOR SHALL MAINTAIN ACCESS TO LOCAL RESIDENCES AND BUSINESSES DURING CONSTRUCTION. IN THE EVENT A DRIVE ACCESS NEEDS TO BE CLOSED, THE CONTRACTOR SHALL GIVE NOTICE OF CLOSURE AND DURATION TO THE PROPERTY OWNER 24 HOURS IN ADVANCE. THE CONTRACTOR SHALL ARRANGE FOR ALTERNATE PARKING AND REASONABLE ACCESS FOR THOSE PROPERTY OWNERS AFFECTED BY DRIVE CLOSURES.

(C) EXISTING STREET NAME AND TRAFFIC CONTROL SIGNS

WHERE WORK REQUIRES THE MOVEMENT OF EXISTING SIGNS (STOP SIGNS, SPEED LIMIT SIGNS, NO PARKING SIGNS, ETC.), THE CONTRACTOR IS REQUIRED TO MAINTAIN THE FUNCTION OF ALL TRAFFIC CONTROL SIGNS. ALL SIGNS REMOVED BY THE CONTRACTOR SHALL BE STORED ON SITE AND REINSTALLED BY THE CONTRACTOR.

(D) NEW STREET NAME & TRAFFIC CONTROL SIGNS

ALL STREET NAME AND TRAFFIC CONTROL SIGNS SHALL COME COMPLETE AND BE MADE IN ACCORDANCE WITH THE CITY OF CANTON SIGN AND PAINT DEPARTMENT SPECIFICATIONS. GENERALLY, ALL SIGNS SHALL HAVE HI-INTENSITY SHEETING AND BE MADE WITH 080 50/52 ALUMINUM. STREET NAME SIGNS SHALL BE MADE WITH WHITE UPPER AND LOWER CASE LETTERING ON GREEN BACKGROUND USING 9" BLANKS, BE DOUBLED SIDED W/RADIUS CORNERS AND HAVE 6" NAME AND 3" SUFFIXES. ALL SIGN RELATED HARDWARE IS TO BE INCLUDED, SUCH AS 6" HEAVY DUTY U-CHANNEL CAPS AND STREET NAME CROSSES.

FOR SUBDIVISION DEVELOPMENTS, ALL PERMANENT STREET NAME SIGNS AND TRAFFIC CONTROL SIGNS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

(E) EXISTING TRAFFIC SIGNALS

WHERE WORK REQUIRES INTERFERENCE WITH EXISTING SIGNALIZATION IN THE INTERSECTIONS, ALL WORK SHALL BE COORDINATED THROUGH THE CITY ENGINEER. THE CONTRACTOR SHALL NOT ALTER ANY SIGNALIZATION WITHOUT THE CITY ENGINEER'S AUTHORIZATION.

(F) NEW TRAFFIC SIGNALIZATION

ALL NEW OR MODIFIED TRAFFIC SIGNALIZATION AT INTERSECTIONS SHALL BE IN ACCORDANCE WITH CITY TRAFFIC ENGINEERING TRAFFIC CONTROL GENERAL NOTES AND ODOT SPECIFICATIONS, WITH SPECIAL EMPHASIS ON ODOT ITEMS 625, 632, 633, 732 AND 733 WHICH DEALS WITH TRAFFIC CONTROL.

(G) TRAFFIC CONTROL PLAN

THE CONTRACTOR SHALL SUBMIT TO THE CITY ENGINEER A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH CITY SUPPLEMENTAL SPECIFICATION 01-00 DETOURS. IF NECESSARY, SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO PLAN SUBMISSION.

VIII. WATER MAIN / SERVICES:

(A) WATER MAINS/SERVICES

ALL WATER MAINS, SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO THE CITY OF CANTON WATER DEPARTMENT REQUIREMENTS AND SPECIFICATIONS IN EFFECT AT THE TIME OF CONSTRUCTION. ANY DEVIATION FROM THE PLANS AFFECTING THE WATER SYSTEM MUST BE APPROVED BY THE CANTON WATER DEPARTMENT.

FOR NEW DEVELOPMENTS INSIDE THE CITY, ALL WATER MAIN PIPE MATERIAL FITTINGS, BENDS, VALVES, VALVE BOXES, MEGALUGS, GASKETS AND HYDRANTS WILL BE SUPPLIED BY THE CITY OF CANTON. THE CONTRACTOR WILL BE RESPONSIBLE FOR TRANSPORTING MATERIALS TO THE PROJECT SITE. BACKFILL, BEDDING, THRUST BLOCKING, ETC. AND ASSOCIATED LABOR IS THE RESPONSIBILITY OF THE CONTRACTOR.

WATER MAINS SHALL BE CLASS 53 (12" AND UNDER) OR CLASS 54 (OVER 12") DUCTILE IRON MEETING AWWA C-151 WITH PUSH JOINTS. THE MINIMUM COVER OVER WATER MAINS SHALL BE 4'-6" FROM GROUND SURFACE TO THE BARREL OF THE PIPE. THE OUTSIDE SURFACE OF ALL DUCTILE IRON PIPE, FITTINGS, AND APPURTENANCES SHALL BE SHOP COATED WITH EITHER A COAL TAR OR ASPHALT BASE BITUMINOUS MATERIAL. IF THE COATING MATERIAL IS FOUND TO BE DAMAGED PRIOR TO THE PIPE TRENCH BEING BACKFILLED, THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL APPROVED MATERIAL AS REQUIRED TO REPAIR THE DAMAGES. THE CONTRACTOR SHALL HAVE SUFFICIENT COATING MATERIAL AVAILABLE AT THE JOB SITE PRIOR TO LAYING THE PIPE. THE INTERIOR OF ALL PIPES AND FITTINGS SHALL BE LINED WITH DOUBLE CEMENT MORTAR AND SEAL COATED IN COMPLETE CONFORMANCE WITH AWWA C-104, OR THE LATEST REVISION. FITTINGS SHALL BE RATED FOR 250 PSI WORKING PRESSURE IN ACCORDANCE WITH AWWA C-153. PIPE LENGTHS MAY BE DEFLECTED AT THE JOINT IF REQUIRED, AT ONE-HALF THE DEGREE RECOMMENDED BY THE MANUFACTURER. WATER SERVICES WILL BE INSTALLED BY THE CITY OF CANTON AND PAID FOR BY THE OWNER/DEVELOPER. DISINFECTION OF WATER MAINS SHALL BE IN ACCORDANCE WITH AWWA C-651. ALL WATER LINE PRESSURE TESTING SHALL CONFORM TO AWWA C-600.

WATER MAINS SHALL BE INSTALLED AND BACKFILLED PER O.D.O.T. ITEM 638. WATERLINES LOCATED WITHIN THE LIMITS OF OR WITHIN A 1/2 TO 1 SLOPE OF EXISTING AND/OR PROPOSED ROADWAYS, PARKING AREAS, BUILDINGS, BUILDINGS, SIDEWALKS, AND/OR DRIVES SHALL BE INSTALLED AS TYPE B CONDUITS. ALL OTHER WATER MAINS MAY BE INSTALLED AS TYPE C CONDUITS. BEDDING SHALL BE AS SPECIFIED, EXCEPT THAT SLAG WILL NOT BE PERMITTED.

ALL BENDS, FITTINGS, TEES, VALVES, DEAD ENDS, ETC. SHALL BE SECURED EQUAL. POURED-IN-PLACED CONCRETE THRUST BLOCKS SHALL ALSO BE PROVIDED AT/FOR EACH BEND, FITTINGS, TEE, DEAD END, ETC. THIS BLOCKING SHALL BE CAREFULLY PLACED TO ENSURE IT IS POSITIONED PROPERLY TO WITHSTAND THE RESULTANT FORCES AT EACH BEND, FITTING, ETC. AND SHALL BEAR ON STABLE UNDISTURBED GROUND CAPABLE OF WITHSTANDING THE POTENTIAL LOADING.

IN ADDITION TO THE RESTRAINT OF ALL BENDS, FITTINGS, TEES, VALVES, DEAD END, ETC. THE CONTRACTOR SHALL ALSO SECURE/RESTRAIN ALL JOINTS FOR AT LEAST THREE (3) PIPE JOINTS (50' LF MIN.) ON BOTH SIDES OF EACH DEAD END, BEND, FITTING, VALVE, TEE, ETC. UTILIZING MEGALUGS, FIELD LOK GASKETS, OR APPROVED EQUAL.

THE CONTRACTOR SHALL PROVIDE 18" VERTICAL CLEARANCE BETWEEN PROPOSED WATERLINES AND ANY SANITARY SEWERS WHEN 18" CLEARANCE BETWEEN A WATERLINE AND SANITARY SEWER CANNOT BE OBTAINED. THE CONTRACTOR SHALL PROVIDE CONCRETE ENCASEMENT AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE 12" MINIMUM CLEARANCE BETWEEN WATERLINE AND STORM SEWER. THE CONTRACTOR SHALL MAINTAIN TEN (10) FOOT HORIZONTAL CLEARANCE BETWEEN WATERLINES/SERVICES AND SANITARY SEWERS AND FOUR (4) FOOT HORIZONTAL CLEARANCE BETWEEN WATERLINES/SERVICES AND STORM SEWERS.

FIRE HYDRANTS SHALL BE MUELLER A423 MEETING THE CITY OF CANTON WATER DEPARTMENT STANDARDS AND REQUIREMENTS. ALL COSTS FOR THE 6" PIPING ASSOCIATED WITH THE INSTALLATION OF FIRE HYDRANTS SHALL BE INCLUDED WITH THE FIRE HYDRANT PAY ITEM. ALL HYDRANTS WILL BE INSTALLED WITH THE PUMPER NOZZLE FACING THE STREET.

ALL WATER SERVICES MUST BE INSTALLED BEFORE ANY PAVEMENT FOR THE PROPOSED ROADWAYS HAS BEEN PLACED. CONTRACTOR IS NOT TO MAKE ANY SERVICE TAPS ON THE WATER MAIN. THE CANTON WATER DEPARTMENT WILL MAKE ALL SERVICE TAPS.

THE PROPOSED FACILITIES WILL MAINTAIN A MINIMUM 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

ALL DUCTILE IRON PIPE, INCLUDING FITTINGS AND APPURTENANCES BURIED UNDERGROUND, SHALL BE ENGAGED WITH 8 MIL POLYETHYLENE FILM CONFORMING TO AWWA C105.

POLYETHYLENE WATER MAIN AND SERVICE TUBING 2" AND UNDER SHALL BE COPPER TUBE SIZE AND MEET STANDARDS ASTM-D2737 PE3408 AND AWWA C906. THE ONLY ACCEPTED TUBING IS CP-CHEM PERFORMANCE PIPE DRISCOPEX 5100-ULTRA-LINE.

THE CONTRACTOR SHALL TAKE ANY AND ALL NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN IN SERVICE ANY EXISTING WATER MAINS EXPOSED DURING CONSTRUCTION.

ANY WATER SERVICE LINE THAT IS BROKEN, CUT OR OTHERWISE DAMAGED, SHALL BE REPLACED FROM THE CORPORATION STOP TO THE CURB STOP WITH A SINGLE PIECE OF PLASTIC SERVICE LINE (DRISCOPEX). NO SPLICING OF THE SERVICE LINE WILL BE PERMITTED.

SERVICE BRANCHES WILL BE INSTALLED AS PER O.D.O.T. ITEM 638.16 WITH THE FOLLOWING EXCEPTIONS:  
1. WHEN A SERVICE BRANCH IS DISTURBED FOR LOWERING, RAISING, EXTENDING OR SHORTENING ON THE PROPERTY SIDE ON THE SERVICE STOP, IT SHALL BE REPLACED WITH NEW MATERIALS FROM THE CORPORATION STOP TO THE SERVICE STOP.

IN A STREET IMPROVEMENT, NO EXISTING WATER CURB BOX WILL BE LEFT IN THE PAVEMENT, CURB AND GUTTER OR SIDEWALK. THE CURB BOX WILL BE MOVED TO A SUITABLE LOCATION DETERMINED BY THE CANTON WATER DEPARTMENT. WHEN THE CURB BOX IS MOVED ALL NEW MATERIAL WILL BE USED FROM THE CORPORATION STOP TO THE CURB STOP WHICH IS A SINGLE PIECE OF PLASTIC SERVICE LINE (DRISCOPEX). NO SPLICING OF THE SERVICE LINE WILL BE PERMITTED. A NEW TAP (CORPORATION STOP) AND CURB STOP AND BOX MAY ALSO BE REQUIRED. THE DETERMINATION WILL BE MADE BY THE CANTON WATER DEPARTMENT.

ALL WATER MAINS WILL BE INSTALLED UNDER THE PAVEMENT WITH A MINIMUM OF 3 FEET FROM THE EDGE OF PAVEMENT OR THE CURB AND/OR GUTTER. IN EXISTING STREETS, A SAW CUT WILL BE MADE TO ENSURE A CLEAN EDGE.

WHEN AN EXISTING WATER MAIN MUST BE SHUT DOWN TO PERFORM REQUIRED WORK, THE PROPERTIES TO BE EFFECTED SHALL BE GIVEN A MINIMUM 24 HOUR NOTICE OF SAID SHUT DOWN. THE WORK WILL BE SCHEDULED AND COORDINATED TO MINIMIZE THE TIME THE MAIN IS OUT OF SERVICE.

THE CONTRACTOR SHALL NOTIFY THE CITY 48 HOURS IN ADVANCE OF ANY SHUT DOWN OF AN EXISTING WATER MAIN. THE CONTRACTOR WILL NOT OPERATE ANY VALVES. VALVES WILL BE OPERATED BY CANTON WATER DEPARTMENT PERSONNEL ONLY. VALVES DAMAGED BY THE CONTRACTOR'S OPERATION WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

ALL VALVE BOXES WILL BE ADJUSTED TO FINAL GRADE OF THE PAVEMENT WHEN THE PROJECT IS COMPLETED.

IX. POST CONSTRUCTION INCIDENTALS

(A) AS-BUILT DRAWINGS (PRIVATE PROJECTS)

AS-BUILT REPRODUCIBLE MYLARS SHALL BE PROVIDED TO THE CITY OF CANTON BY THE DESIGN ENGINEER AT THE COMPLETION OF THE PROJECT. THE CONSTRUCTION BOND WILL NOT BE RELEASED UNTIL THE AS-BUILT DRAWINGS HAVE BEEN ACCEPTED.

(B) PROPOSED MONUMENTATION

THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER IN WRITING UPON THE COMPLETION OF MONUMENTS BEING SET AS PER PLAN OR RECORD PLAT.

(C) RELEASE OF RETAINER/BONDS

PRIOR TO THE RELEASE OF RETAINER/CONSTRUCTION BOND BY THE CITY OF CANTON, THE CONTRACTOR SHALL HAVE COMPLETED THE ENGINEER'S PROJECT PUNCHLIST AND SUBMIT FINAL WAIVER OF LIEN, IN ACCORDANCE WITH CITY SS 01-00.

CONTROL POINT

PT. NO.	NORTHING (Y)	EASTING (X)	ELEV.
10	409789.03	228747.84	1057.43
51	409816.44	228751.63	1059.24
55	409745.16	228705.87	1049.54

LEGEND

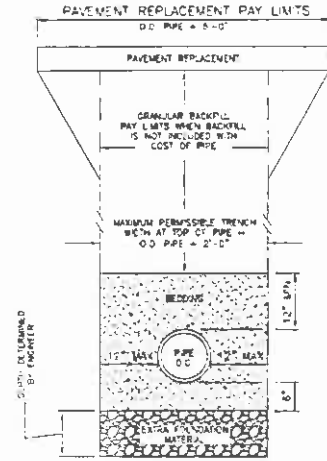
R/W	RIGHT OF WAY
C	CENTER LINE
P	PROPERTY LINE
L	LOT LINE
O	EX. MONUMENT FOUND (AS NOTED)
●	1/2" INCH IRON BAR W/ M&A CAP SET
( )	RECORD BEARINGS & DISTANCES
E.O.P.	EDGE OF PAVEMENT
F.F.	FINISH FLOOR ELEVATION
—	FENCE (AS NOTED)
—	GUARD RAIL
■	MAILBOX
●	POST
●	POWER POLE
●	TELEPHONE POLE
●	TELEPHONE/ LIGHT POLE
●	TELEPHONE/ POWER POLE
●	GENERAL POLE
●	LIGHT POLE
●	LIGHT/ POWER POLE
●	LIGHT/ POWER/ TELEPHONE POLE
●	LIGHT/ POWER/ TELEPHONE, CABLE TV POLE
—	ANCHOR
—	RAIL ROAD
+	SIGN (AS NOTED)
●	TREE (AS NOTED)
—	H.C. RAMP W/ TRUNCATED DOME
T/G	TOP OF GRATE
T/C	TOP OF COVER
—	FLOW LINE
-TV-	CABLE LINE
■	CABLE BOX
-E-	ELECTRIC LINE
■	ELECTRIC BOX
-G-	GAS LINE
⊙	GAS LINE MARKER
-S-	SANITARY SEWER LINE
O	EX. MANHOLE (AS NOTED)
●	PROP. MANHOLE (AS NOTED)
CO	CLEAN OUT
-ST-	STORM SEWER LINE
■	EX. STORM C.B.
■	PROP. STORM C.B.
YD	YARD DRAIN
FD	FLOOR DRAIN
RD	ROOF DRAIN
DS	DOWN SPOUT
-T-	TELEPHONE LINE
■	TELEPHONE BOX
-W-	WATER LINE
■	EX. FIRE HYDRANT
■	PROP. FIRE HYDRANT
■	EX. VALVE (AS NOTED)
■	PROP. VALVE (AS NOTED)
—	EX. CONTOUR LINE
—	PROP. CONTOUR LINE
980	CONTOUR LABEL
±	SPOT ELEVATION
●	SOIL BORING

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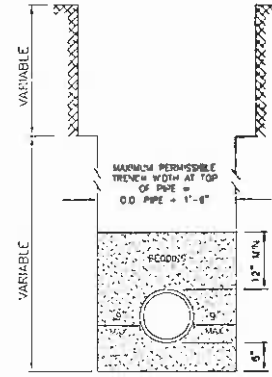
REV.	BY	DATE	DESCRIPTION
1	CLK	9/29/09	PER CITY COMMENTS
2	CLK	9/11/09	PER CITY COMMENTS

SCALES  
HORIZ. N/A  
VERT. N/A  
CONTOUR INT. N/A

GENERAL NOTES  
GP 1137-WAYNESBURG DRIVE SE  
SANITARY SEWER REHABILITATION  
FOR THE CITY OF CANTON  
LOCATED IN THE CITY OF CANTON/CANTON TOWNSHIP  
SECTION 14 NW, STARK COUNTY, OHIO



GRANULAR BACKFILL, PAVEMENT & EXTRA FOUNDATION MATERIAL PAYMENT LIMITS



ROCK EXCAVATION PAY LIMITS

PAYMENT: THE PRICE BID AND PAID THE CONTRACTOR FOR EXTRA FOUNDATION MATERIAL SHALL BE PER CUBIC YARD PLACED, AS NAMED IN THE PROPOSAL THEREOF, AND SHALL INCLUDE ALL LABOR AND MATERIALS INCIDENTAL TO THE FURNISHING AND PLACING OF EXTRA FOUNDATION MATERIAL INCLUDING THE EXCAVATION OF THE MATERIAL TO BE REPLACED, SHEETING, BRACING, PUMPING, DRAINING, REMOVAL OF SURPLUS MATERIALS AND GRADING OF THE EXTRA FOUNDATION MATERIAL.

STRUCTURES: ROCK EXCAVATION FOR STRUCTURES, UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS, SHALL BE MEASURED BETWEEN VERTICAL PLANES ONE (1) FOOT BEYOND THE NEAT LINES OF THE FOUNDATION OF THE STRUCTURES ON ALL SIDES, AND PARALLEL THERETO, AND FROM THE SURFACE OF THE ROCK TO THE NEAT LINES OF THE BOTTOM OF THE STRUCTURES.

EXTRA FOUNDATION MATERIAL

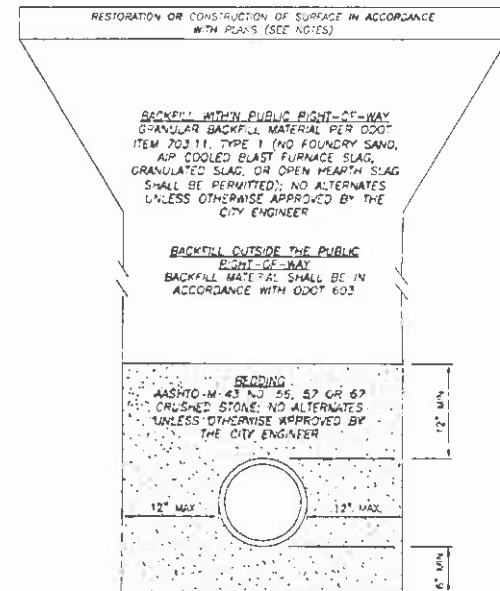
DEFINITION: WHEN IN THE OPINION OF THE ENGINEER, SOFT UNSTABLE MATERIALS ARE ENCOUNTERED WHICH ARE UNSUITABLE FOR BEDDING FOUNDATION, SAID MATERIAL SHALL BE REMOVED BY THE CONTRACTOR TO THE DEPTH DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE MATERIAL. IF SUITABLE REPLACEMENT MATERIALS ARE NOT FOUND IN EXCAVATION, THEY SHALL BE PAID FOR UNDER THIS SECTION.

MATERIAL: SHALL CONSIST OF RUN-OF-MINE GRAVEL, GRAVEL, CRUSHED STONE OR SLAG TO THE SATISFACTION OF THE ENGINEER.

OFFICE OF THE CITY ENGINEER  
CANTON, OHIO  
DANIEL J. MOEGLIN, P.E., CITY ENGINEER  
2435 30TH STREET N.E. 44705 (330)489-3381

STANDARD DRAWING NO. 32  
PAY LIMITS - TRENCHES,  
ROADWAYS & STRUCTURES

REVISIONS			DRAWN BY	DATE	AUGUST 2009
DESCRIPTION	DATE	BY			
			APP'D BY: RMB	H. SCALE: N/A	
			FIELD BK:	V. SCALE: N/A	
			DWG#	SHEET 1 OF 1	



NOTES:

BEDDING FOR REINFORCED CONCRETE PIPE SHALL EXTEND 3" BELOW THE BOTTOM OF PIPE AND FLUSH WITH THE TOP OF PIPE.

INSTALLATION METHODS OF BACKFILL AND BEDDING MATERIAL SHALL CONFORM WITH ODOT 603. ALL BACKFILL UNDER STREET PAVEMENT SHALL BE PLACED IN LAYERS NOT TO EXCEED 8-INCHES LOOSE DEPTH AND COMPACTED BY APPROVED MECHANICAL MEANS. ALL MATERIALS USED UNDER PAVEMENTS SHALL BE GRANULAR MATERIAL (PER THE ABOVE NOTED REQUIREMENTS), AND SHALL CONTAIN NO CLAY JETTING IS NOT APPROVED WITHOUT THE CITY ENGINEER'S APPROVAL.

TRENCH SURFACE: ALL TRENCHES SHALL BE TOPPED WITH 4" OF ODOT 304 LIMESTONE WITHIN EXISTING ROADWAY PAVEMENTS WHEN THE ROADWAY WILL BE OPENED TO VEHICULAR TRAFFIC PRIOR TO PAVEMENT REPLACEMENT. THE TRENCH TOPPING MATERIAL SHALL BE ROLLED OR OTHERWISE COMPLETED FLUSH WITH THE ADJOINING PAVEMENT.

ROAD PAVEMENTS SHALL BE REPLACED IN ACCORDANCE WITH CITY STANDARD DRAWING NO. 44.

LAWN SURFACES SHALL BE REPLACED WITH A MINIMUM OF 4" TOPSOIL, SEEDED, AND MULCHED. SEED MAX SHALL CONFORM TO ADJOINING LAWN GRASS.

OFFICE OF THE CITY ENGINEER  
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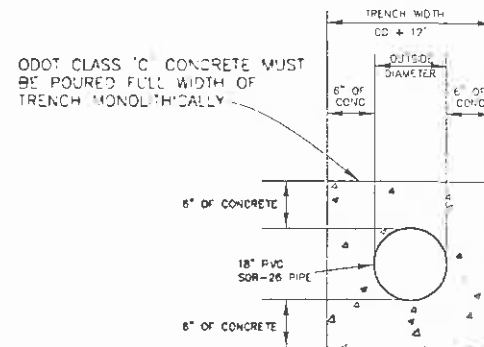
STANDARD DRAWING NO. 29  
BACKFILL & BEDDING FOR  
UTILITY DITCHES

REVISIONS			DRAWN BY	DATE	AUGUST 2009
DESCRIPTION	DATE	BY			
			APP'D BY: RMB	H. SCALE: N/A	
			FIELD BK:	V. SCALE: N/A	
			DWG#	SHEET 1 OF 1	

SHEET NO.	REFERENCE NO.	STATION TO STATION	CONSTRUCTION STAKING						
			LUMP	L.F.	L.F.	LUMP	LUMP	L.F.	LUMP
7-8			1						
7	SL-1	STA. 10+00-STA. 11+72		172					
8	SR-1	STA. 101+84-STA. 102+24			50				
9	BP-1					1			
8							1		
8	RC-1	STA. 102+16-STA. 102+40						24	
8									1
TOTAL			1	172	50	1	1	24	1

NOTE: THE UNIT PRICE FOR THE SEWER REPLACEMENT ITEM IN THE BID SHALL INCLUDE VIDEO TELEVISIONING OF THE SANITARY SEWER LINE AFTER THE REPLACEMENT OF THE SEWER TO OBSERVE THE CONNECTION TO THE EXISTING SANITARY SEWER UPSTREAM AND DOWNSTREAM OF THE REPLACEMENT PIPE. MOVED TO SHEET 4 OF 10

## GENERAL SUMMARY OF QUANTITIES

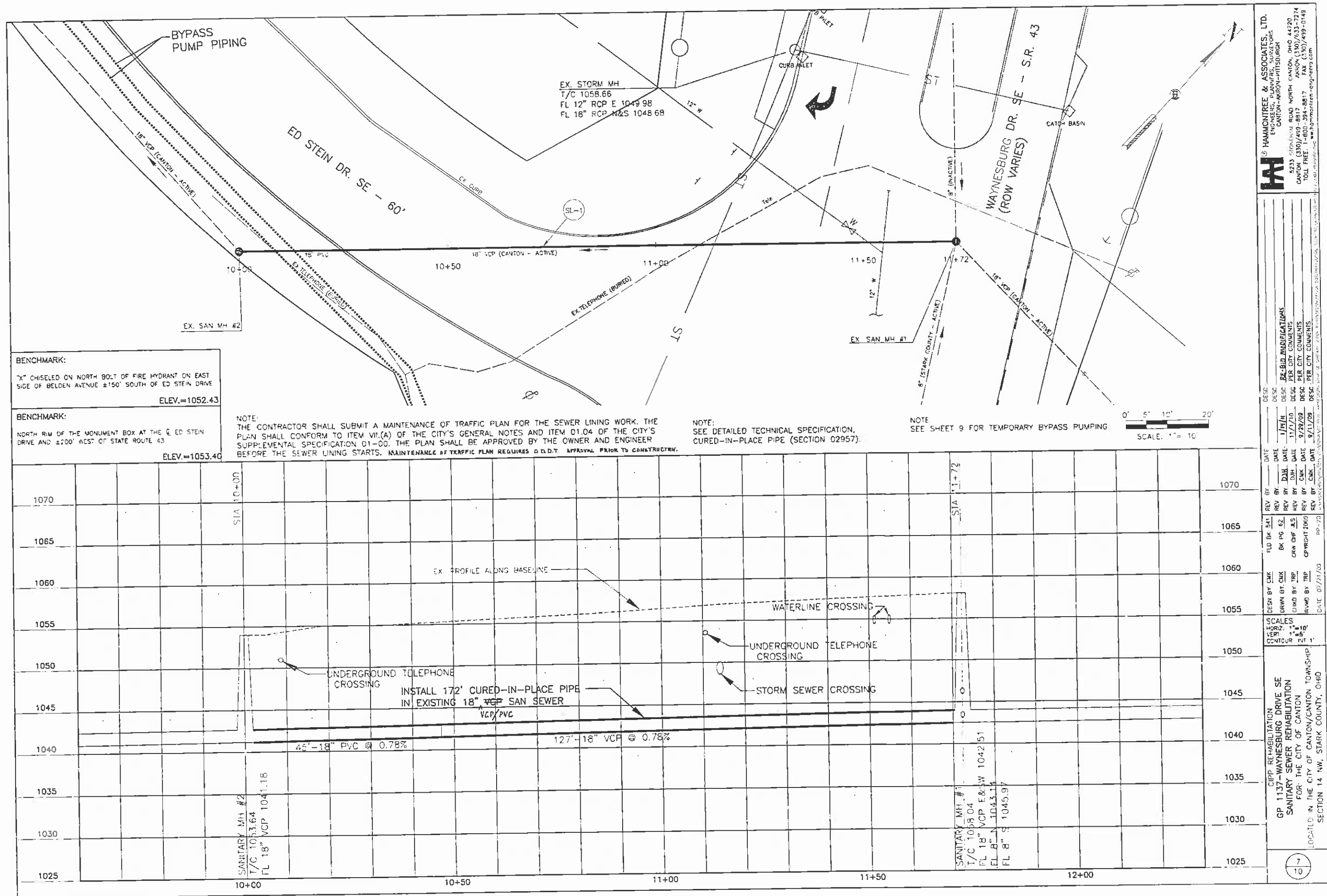


CONCRETE ENCASEMENT  
NOT TO SCALE

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DESC.		DESC.		DESC.		DESC.	
1/1/10	11/1/10	9/23/09	9/11/09	9/11/09	9/11/09	9/11/09	9/11/09
PER CITY COMMENTS	PER CITY COMMENTS	PER CITY COMMENTS	PER CITY COMMENTS	PER CITY COMMENTS	PER CITY COMMENTS	PER CITY COMMENTS	PER CITY COMMENTS

REV	BY	DATE	REV	BY	DATE	REV	BY	DATE	REV	BY	DATE
1	DJM	11/1/10	1	DJM	11/1/10	1	DJM	11/1/10	1	DJM	11/1/10
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4	DJM	11/1/10	4	DJM	11/1/10	4	DJM	11/1/10	4	DJM	11/1/10
5	DJM	11/1/10	5	DJM	11/1/10	5	DJM	11/1/10	5	DJM	11/1/10
6	DJM	11/1/10	6	DJM	11/1/10	6	DJM	11/1/10	6	DJM	11/1/10
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10	DJM	11/1/10	10	DJM	11/1/10	10	DJM	11/1/10	10	DJM	11/1/10
11	DJM	11/1/10	11	DJM	11/1/10	11	DJM	11/1/10	11	DJM	11/1/10
12	DJM	11/1/10	12	DJM	11/1/10	12	DJM	11/1/10	12	DJM	11/1/10
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We're Hammond—eng-neers.com

DESC	RE-BID MODIFICATIONS
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SCALES		REV BY		DATE	
HORIZ	1"=10'	REV BY	DATE		
VERT	1"=5'	REV BY	DATE		
CONTOUR	INT 1'	REV BY	DATE		
DESIGN BY	CHK	FLD BK	541		
DRWN BY	CHK	BK PG	52		
CHKD BY	TRP	CRM CMT	JLS		
RMVD BY	TRP	CPWEIGHT	2005		
DATE	07/24/03	REV BY	CHK	DATE	9/11/08
		REV BY	CHK	DATE	9/29/08
		REV BY	CHK	DATE	11/7/10
		REV BY	CHK	DATE	1/1/11

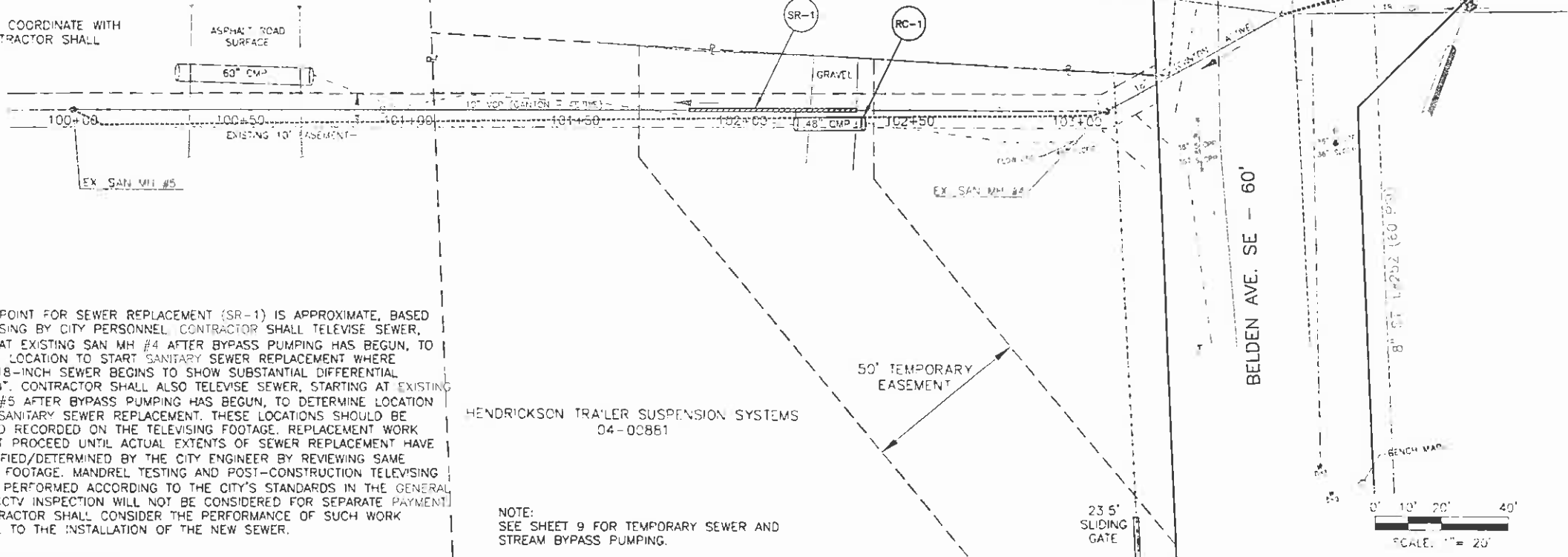
CIPP REHABILITATION  
GP 1137-WAYNESBURG DRIVE SE  
SANITARY SEWER REHABILITATION  
FOR: THE CITY OF CANTON  
D IN THE CITY OF CANTON/CANTON TOWNSHIP  
SECTION 14 NW, STARK COUNTY, OHIO

$$\frac{7}{10}$$

NOTE:  
CONTRACTOR SHALL REPLACE 48" CMP CULVERT PIPE (RC-1) WITH ODOT 603 MATERIAL IN ACCORDANCE WITH ODOT 707.33 SURFACE OVER TOP OF CULVERT PIPE SHALL BE RESTORED TO ITS ORIGINAL DEPTH, WIDTH AND COMPOSITION, AND THE COSTS OF THE RESTORATION SHALL BE INCIDENTAL TO THE PIPE REPLACEMENT.

NOTE:  
SLIDING GATE IS 23.5 FEET WIDE. THE CONTRACTOR MUST COORDINATE WITH PROPERTY OWNER TO OBTAIN KEY TO UNLOCK GATE. CONTRACTOR SHALL LOCK GATE WHEN WORK IS NOT BEING PERFORMED.

MAINCON REALTY LTD.  
04-00880



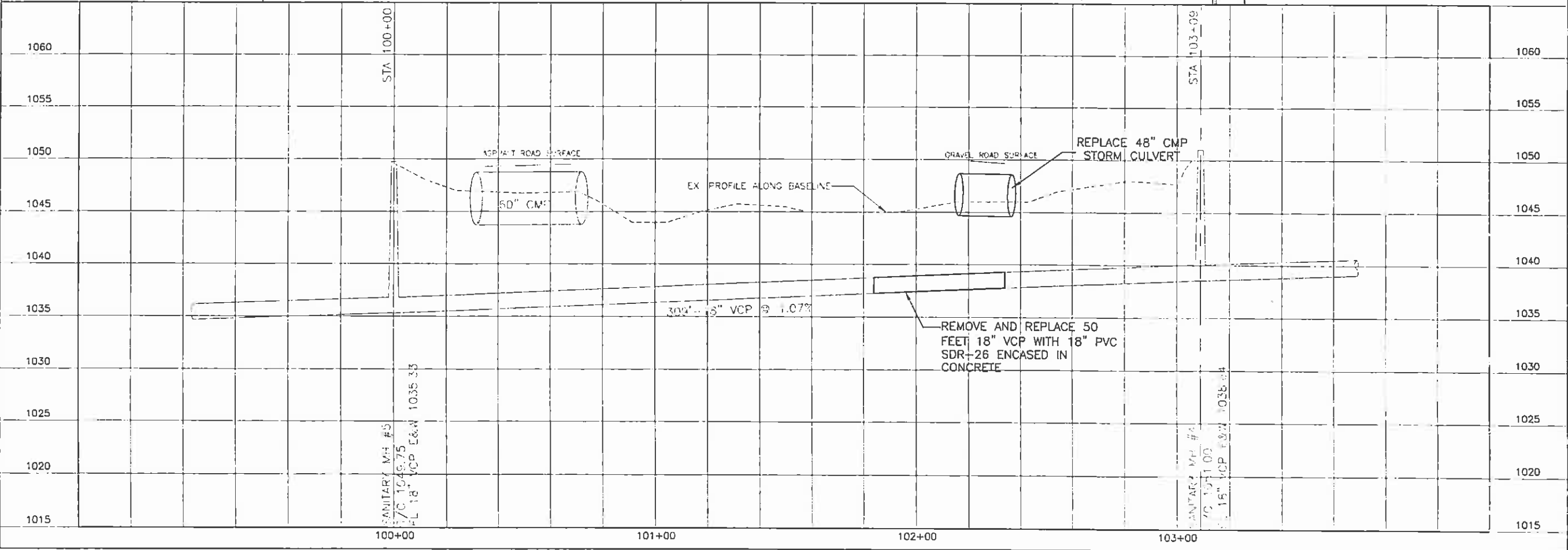
NOTE:  
STARTING POINT FOR SEWER REPLACEMENT (SR-1) IS APPROXIMATE, BASED ON TELEVISION BY CITY PERSONNEL. CONTRACTOR SHALL TELEVISION SEWER, STARTING AT EXISTING SAN MH #4 AFTER BYPASS PUMPING HAS BEGUN, TO DETERMINE LOCATION TO START SANITARY SEWER REPLACEMENT WHERE EXISTING 18-INCH SEWER BEGINS TO SHOW SUBSTANTIAL DIFFERENTIAL SETTLEMENT. CONTRACTOR SHALL ALSO TELEVISION SEWER, STARTING AT EXISTING MANHOLE #5 AFTER BYPASS PUMPING HAS BEGUN, TO DETERMINE LOCATION TO STOP SANITARY SEWER REPLACEMENT. THESE LOCATIONS SHOULD BE NOTED AND RECORDED ON THE TELEVISION FOOTAGE. REPLACEMENT WORK SHALL NOT PROCEED UNTIL ACTUAL EXTENTS OF SEWER REPLACEMENT HAVE BEEN VERIFIED/DETERMINED BY THE CITY ENGINEER BY REVIEWING SAME TELEVISION FOOTAGE. MANDREL TESTING AND POST-CONSTRUCTION TELEVISION SHALL BE PERFORMED ACCORDING TO THE CITY'S STANDARDS IN THE GENERAL NOTES. CCTV INSPECTION WILL NOT BE CONSIDERED FOR SEPARATE PAYMENT. THE CONTRACTOR SHALL CONSIDER THE PERFORMANCE OF SUCH WORK INCIDENTAL TO THE INSTALLATION OF THE NEW SEWER.

HENDRICKSON TRAILER SUSPENSION SYSTEMS  
04-00881

NOTE:  
SEE SHEET 9 FOR TEMPORARY SEWER AND STREAM BYPASS PUMPING.

BENCHMARK:  
"X" CHISELED ON NORTH BOLT OF FIRE HYDRANT ON EAST SIDE OF BELDEN AVENUE ±150' SOUTH OF ED STEIN DRIVE  
ELEV.=1052.43

BENCHMARK:  
NORTH RIM OF THE MONUMENT BOX AT THE E ED STEIN DRIVE AND ±200' WEST OF STATE ROUTE 43  
ELEV.=1053.40



SEWER REHABILITATION  
GP 1137-WAYNESBURG DRIVE SE  
SANITARY SEWER REHABILITATION  
FOR THE CITY OF CANTON  
LOCATED IN THE CITY OF CANTON/CANTON TOWNSHIP,  
SECTION 14 NW, STARK COUNTY, OHIO

DESIGNED BY: [Signature] DATE: 11/14/11  
CHECKED BY: [Signature] DATE: 11/17/11  
DRAWN BY: [Signature] DATE: 11/17/11  
REVISED BY: [Signature] DATE: 07/24/09

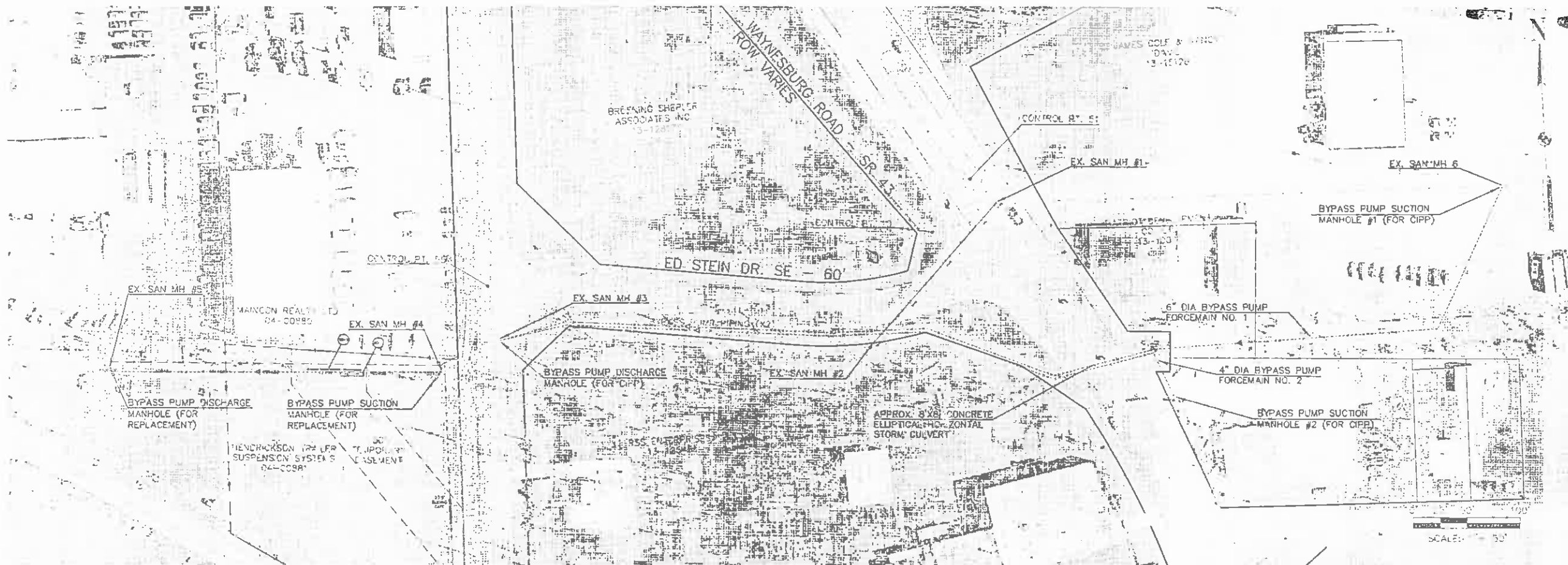
SCALE:  
HORIZ. 1"=20'  
VERT. 1"=5'  
CONT. 1"=1'

REVISIONS:  
1. 11/14/11  
2. 11/17/11  
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10. 11/17/11

PROJECT NO. 04-00880  
SHEET NO. 10

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THE CONTRACTOR SHALL MAINTAIN SERVICE FOR ANY CUSTOMERS CONNECTED TO THE SANITARY SEWER WHILE THE TEMPORARY BYPASS PUMPING IS PERFORMED. BACK-UPS OF SANITARY SEWER SHALL BE THE CONTRACTOR'S RESPONSIBILITY FOR ALL COSTS AND LEGAL CLAIMS.

THE COST OF THE TEMPORARY BYPASS PUMPING SHALL BE INCLUDED IN THE COST OF THE SEWER Lining AND SEWER REPLACEMENT ITEMS IN THE BID.

WITH THE SHOP DRAWING SUBMITTALS FOR THE PROJECT, THE CONTRACTOR SHALL PROVIDE A WRITTEN PLAN FOR THE TEMPORARY BYPASS PUMPING. THE PLAN SHALL CONTAIN A PUMP DESCRIPTION AND CURVES, PUMPING SHOP DRAWINGS, INFORMATION ON ALL ACCESSORIES AND A SCHEDULE FOR THE PUMPING. CONSTRUCTION SHALL NOT START UNTIL THE PLAN IS APPROVED BY THE OWNER AND ENGINEER.

- TEMPORARY STREAM BYPASS PUMPING/TRENCH DEWATERING
- THE CONTRACTOR SHALL PROVIDE TEMPORARY BYPASS PUMPING IN THE STREAM AND TRENCH WHERE THE SEWER REPLACEMENT WILL BE PERFORMED. THE STREAM SHALL BE BARRICADED UPSTREAM AND DOWNSTREAM OF THE WORK AREA WITH APPROPRIATE MATERIALS (SAND BAGS, GEO-FABRIC, ETC.) TO PREVENT WATER FROM ENTERING THE STREAM AND TRENCH. THE PUMPS SHALL BE PROPERLY SIZED TO NOT ALLOW THE STREAM TO BACK UP ABOVE ITS NORMAL DEPTH OR TO ALLOW WATER TO ENTER THE TRENCH. THE SEWER REPLACEMENT AND RESTORATION OF THE STREAM CHANNEL AND BED AND SEWER TRENCH SHALL BE COMPLETED BEFORE THE BYPASS PUMPING IS STOPPED.

- CONTRACTOR SHALL USE PROPER PLUGS TO PLUG THE DOWNSTREAM 18\"/>

THE TEMPORARY PIPING SHALL BE RIGID WITH BALL AND SOCKET CONNECTIONS, PROVIDING LEAK-PROOF PIPE WITH DEFLECTIONS UP TO 20% HDPE PIPE (FUSED) IS THE ONLY ALLOWABLE ALTERNATE FOR THIS PIPING.

- THE CONTRACTOR SHALL PROVIDE A WORKING TEMPORARY BYPASS PUMPING SYSTEM THAT MEETS OSHA REQUIREMENTS AND IS PROPERLY OPERATED AND MAINTAINED WHILE THE PUMPING IS PERFORMED.

GP 1137-WAYNESBURG DRIVE SE  
SANITARY SEWER REHABILITATION  
FOR THE CITY OF CANTON  
LOCATED IN THE CITY OF CANTON/CANTON TOWNSHIP  
SECTION 14 NW, STARK COUNTY, OHIO

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**SCALES:**  
 HORIZ. 1"=50'  
 VERT. 1"=5'  
 CONTOUR 10' N/A

